

will arise; the customers who remain with the uncooperative vertically integrated firm in the downstream market will suffer from the lack of cooperation.

83. Two general principles emerge from this analysis: First, vertical integration into a downstream market merits scrutiny whenever the upstream seller has a significant role in the upstream market. Second, the social costs of the degradation of cooperation with downstream rivals that will inevitably accompany vertical integration need to be reckoned against any efficiencies that may result from the vertical integration.

84. There are several prominent examples in antitrust analysis where these issues have arisen: One recent case involves Microsoft, which dominates the operating system market for desktop computers. Application software sells in a downstream market. There is evidence that Microsoft has become less cooperative with applications developers as its vertical integration into applications has progressed. Another downstream product is the computer itself. Microsoft is not integrated vertically into the computer market and cooperates closely with the downstream computer makers. Kodak is another firm for whom these issues have arisen. Kodak is a major seller of photographic film; processing is a downstream market. As a result of Kodak's failure to cooperate with its downstream processing rivals, the government brought an antitrust case against the firm that culminated in a consent decree in 1954 forbidding the bundling of film and processing. Kodak is also an important, but not dominant, seller of copiers. There is a downstream market for servicing Kodak copiers. A jury recently found that Kodak violated antitrust law by failing to cooperate with its downstream service rivals by denying them spare parts. Another example is IBM, a dominant seller of some types of computers. There is a downstream market for computer peripherals into which IBM is vertically integrated. The European Union required that IBM cooperate with its rivals by providing advance information about the specifications of new central processors to those rivals. Finally, the Telecommunications Act ensures cooperation by the incumbent local carriers, while they are dominant in the local markets, with the carriers in the downstream long-distance market by preventing vertical integration.

85. As these examples illustrate, the vertical integration of dominant firms raises issues for antitrust and regulation. The choice of policy depends on factual issues. These issues are the relative importance of the efficiencies that are available from vertical integration and the likely success of enforced cooperation and its cost, and

the welfare losses from dominance of the downstream market by the upstream firm.

86. Examples of the tension between vertical integration and cooperation often arise outside of antitrust law and regulation. For example, it appears that a prime motivation for AT&T's decision to spin off its telephone switch manufacturing business was that its customers in that business—long distance and other telephone carriers—distrusted dealing with a company that was either a rival in their telephone businesses or likely to become one soon.

87. One policy option is to allow the dominant upstream firm to dominate the downstream market as well. This policy would be favored in situations where enforced cooperation between the upstream firm and independent downstream firms is unlikely to be achieved through antitrust actions or regulation *and* where a prohibition of vertical integration by the dominant upstream firm sacrifices too many efficiencies. The resolution of the government's antitrust case against Microsoft implicitly made this policy choice. The structure of the telephone industry before 1984 implicitly reflected this policy choice as well.

88. A second policy option is structural separation, the prohibition of vertical integration by the dominant upstream firm into the downstream market. This policy would be favored where enforced cooperation is impractical or too expensive and where the foregone efficiencies of vertical integration are not too great. This policy choice was reflected in the consent decree barring Kodak from the processing market in 1954 and in the Telecommunications Act of 1996. From the perspective of incentives for cooperation, structural separation requires that the upstream and downstream sellers be completely independent, with separate ownership. Cooperation will not occur if the sellers are only separate subsidiaries of the same firm.

89. A third policy option is enforced cooperation through regulation or litigation. Under this option, firms are forced to act contrary to their shareholders' interests by providing their downstream rivals with information and products. This option was implicit in the European Union undertaking to require IBM to provide specifications to its rivals in the plug-compatible peripherals market.

90. The second and third options seek to promote cooperation between the dominant firm and its downstream rivals. Where the disincentives for cooperation

are strong, structural separation is the favored option. Where the disincentives are not as strong, enforced cooperation may be favored.

91. The disincentive for cooperation is much greater when the upstream activity of the dominant firm is regulated, because the dominant firm will attempt to capture profit from downstream activities that would be available from high prices in the upstream market absent regulation. In the telephone industry, one of the ways local carriers can escape the constraint of regulation in local service is by limiting the role of rival long-distance carriers and selling over-priced long-distance services to its captive local customers. The disincentive for cooperation is just as important under price-cap regulation as it is under traditional rate-of-return regulation.

92. Cooperation between upstream sellers and downstream purchasers is least important when the product is a standardized commodity. By the same token, cooperation is likely to be most important when the upstream and downstream functions have complex technical relations. The relationship between a local and a long-distance carrier is highly technical, and is becoming more so, as increasing intelligence is added to the national telephone system.

D. Cooperation and Competition in the Telephone System

93. In the design of policy for the telephone system, the overriding goal is to provide seamless interconnection of every telephone in the country in a convenient way at low prices. Because it is unlikely that the nation will return to a monolithic, fully regulated, single-firm telephone network, my analysis will focus on policies for maintaining the socially optimal environment for cooperation among the many independent firms that make up the system. The ultimate standard for judging the performance of the telephone system is the economic welfare of telephone customers.

94. In the contemporary American telephone industry, the local carriers are vertically integrated in all network functions except long distance. Access, switching, local transport, and intra-LATA transport are all handled by the local carriers. Recent loosening of regulation has resulted in entry by independent firms at all levels. The issue of cooperation between the local carriers—still dominant in all markets except long distance—and their rivals is arising more and more frequently. To date, both state and federal regulatory policies have pursued the option of enforced cooperation at every level except long distance. An interesting

question, outside the scope of this affidavit, is whether the principle of structural separation might promote better performance than enforced cooperation at other levels, such as toll calls within metropolitan areas.

95. The central issue in the current proceeding is whether it is time for federal policy to switch from structural separation to vertical integration with enforced cooperation with respect to the relationship between local and long-distance carriers. Shareholder interest will dictate that the local carriers, such as Southwestern Bell, cease any voluntary cooperation with independent long-distance carriers, who would then be their rivals. It is critical to understand that current levels of cooperation between local telephone companies and long-distance carriers are no guide to the level of cooperation that would occur after they became rivals.

96. Permitting the local carriers to enter long distance would involve a switch to a policy of enforcing cooperation between the newly integrated carriers and their long-distance rivals. This policy of enforcing cooperation would replace the policy of inducing cooperation through market incentives provided by the current principle of structural separation, where the long-distance carriers are customers, not rivals, of non-integrated local carriers. In section E of this Part, I consider the evidence on the success of regulation and litigation in enforcing cooperation contrary to market incentives. At best, regulators and courts can sometimes prevent the continuation of the more conspicuous forms of non-cooperation—overt acts of discrimination. Even then, remediation usually comes years after the conduct begins. I believe that the evidence is generally unfavorable to the hypothesis that genuine cooperation of the type needed increasingly between the elements of the telephone network can be enforced from the outside.

97. Regulation of access services in most markets will continue because Southwestern Bell and other local carriers will remain dominant in these access markets for the foreseeable future. As I noted earlier, cooperation with downstream rivals is particularly unlikely if the upstream market is regulated. Hobbling downstream rivals is even more profitable when regulation limits the profits available directly in the upstream market, because the profits can be captured in the downstream market. In addition, vertical integration raises the burden on the regulator by creating opportunities for cost shifting. Determining the appropriate allocation of costs between the regulated and competitive activities of the same telephone company is expensive and unreliable. Under any but the most pristine price cap, regulation creates an incentive to report costs of

unregulated operations as if they arose from regulated operations. The incentive is direct in traditional regulation, where a firm is compensated for its allowable costs. The incentive is indirect but still important in price-cap regulation, to the extent that future price caps depend on current costs or profits. The shifting of costs from unregulated to regulated activities lowers social welfare in two ways: by raising the price of regulated service and by displacing more efficient rivals from the unregulated market. Section J of this part deals with these issues.

98. The policy of structural separation is best applied when efficiencies from vertical integration are small relative to the costs of non-cooperation. In section L of this part, I consider evidence on these efficiencies, with particular attention to those identified in the studies sponsored by Southwestern Bell. I do not find persuasive evidence of efficiencies from combining long distance with access and other types of local service.

99. Although the pressure from local telephone companies to enter long distance is now intense, because they are regulated monopolies in their upstream markets, there may come a day when they voluntarily drop vertical integration by spinning off either long distance or local service. This will only occur after local markets become reasonably competitive. Just as AT&T found it desirable to avoid the cooperation-competition strain that arose when a long-distance company was selling switches to its rivals, vertically integrated telephone companies could find it in their shareholders' interests to avoid the same strain in telephone service. But such a reversal will occur only when local telephone markets are substantially competitive and regulation has been removed.

1. Benefits of Cooperation in the Telephone Network

100. Long distance involves substantial cooperation between the carrier and access providers at both ends of the call. As networks become more sophisticated, cooperation will become more critical. In that respect, the benefits from the principle of structural separation are growing over time.

101. As long as policy retains the principle that different organizations should cooperate to provide the telephone user a system with seamless interconnection, ensuring cooperation among those organizations is a top priority. The conversion of the national telephone system from MF signaling to SS7 signaling has dramatically increased the benefits that the telephone customer can obtain from the system if the various suppliers in the system cooperate. The advent of the

Advanced Intelligent Network and the use of ever more sophisticated software will increase the potential benefits even further. It is distinctly not in Southwestern Bell's shareholders' interest to cooperate with a long-distance carrier if Southwestern Bell is also in the long-distance market—hobbling rivals raises shareholder value. Businesses compete rather than cooperate with their rivals.

102. Local toll markets are good examples of the adverse effect of vertical integration on cooperation—incumbent local carriers uniformly deny their rivals even the most elementary forms of cooperation, such as the use of convenient dialing methods, unless forced by regulators. They also charge their rivals significantly more for access than it costs the carriers to provide access. The local carriers' failure to cooperate with their rivals in local toll markets is conspicuous. It places their rivals at a large disadvantage and gives the local carriers continuing dominance in most local toll markets. I believe the price and convenience of local toll services would be significantly lower if the local carriers cooperated with local toll competitors.

103. There are other examples of markets which demonstrate the adverse effect of vertical integration on cooperation. For example, independent voicemail vendors are heavily dependent on local carrier cooperation. After the local carriers were permitted to integrate vertically into voicemail in 1988, cooperation with independent vendors fell dramatically. Almost immediately after the carriers were permitted to enter the voice messaging market, several of them filed tariffs that increased the costs of independent answering services by astronomical amounts. Several local carriers deny call forwarding on busy or no answer in connection with answering services, even though it is available to other customers.

104. Another example is the market for payphones. The incumbent local carriers have systematically denied independent payphone vendors the same facilities and interconnections used by their own payphones. The failure of the local carriers to cooperate with their downstream rivals in the payphone market is costly to the payphone user. As an example of non-cooperation, the local carriers consistently refuse to provide the same services to independents that they provide to their own payphone operations.

105. Cellular telephone systems are dependent on local telephone companies to deliver calls placed by cellular users to people with standard telephones. In many markets, the local telephone company owns one of the cellular carriers, so that the issue of competition and cooperation should arise in principle. Dr. Gordon

suggests on behalf of Southwestern that lack of discrimination in the cellular market is evidence that regulation is effective in enforcing cooperation.³⁶ I believe that the tension between cooperation and competition is much less acute in cellular services than in local toll or long distance. Each of the two competitors is constrained to half of the spectrum capacity. It only makes sense for the local phone company to interfere with its cellular rival if its own cellular arm can serve additional customers taken from the rival. If the cellular arm is at capacity, the incentive is diminished. Moreover, there were cellular interconnection disputes when the service commenced. Non-wireline carriers wanted to access local exchange networks on a carrier-to-carrier basis while the local carriers refused and offered instead to interconnect cellular carriers like any other large customer.³⁷

2. *Cooperation in Long Distance*

106. I believe that cooperation between local telephone companies and long-distance carriers is an issue of high and growing importance. Cooperation involves much more than just the avoidance of frankly discriminatory acts. As the national telephone system becomes more sophisticated, the importance of cooperation becomes greater and the nature of successful cooperation becomes more subtle and difficult to enforce through regulation and litigation. Experience in the downstream markets where the incumbent local carriers are already vertically integrated—local toll, voicemail, and payphones—suggests uniformly that the carriers serve their shareholders properly by cooperating as little as possible. Unless the efficiencies of vertical integration are substantial, the customers' interests are better served by the principle of structural separation. Under that principle, the carriers have incentives to cooperate with their downstream customers. As I discussed in the previous section, structural separation requires separate ownership of the dominant local carrier and long-distance carriers—its purposes cannot be accomplished by placing the local carrier's long-distance operation in a separate subsidiary. The requirement for a separate long-distance subsidiary in the Telecommunications Act of 1996 applies after the Act's mandate for structural separation has been removed because of the development of adequate local competition. The requirement for a separate subsidiary has benefits for

³⁶ *Gordon Affidavit*, p. 19.

³⁷ These points are developed by Dan Kelley in his declaration filed before the FCC In the Matter of Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as amended, April 1997.

regulation, but does not affect incentives that inhibit cooperation after vertical integration.

107. Dale Hatfield's affidavit explains in detail how technical improvements in telephone service—generally based on software—have increased the importance of cooperation between the independent firms that make up the telephone system.³⁸ As he points out, local carriers may go through the motions of apparent cooperation and yet stand in the way of improvements that would bring large benefits to the telephone consumer.

E. Regulation with Vertical Integration

108. Southwestern Bell's experts Professor Kahn and Dr. Tardiff and Dr. Gordon dismiss the issue of cooperation with the claim that regulators are capable of correcting overt acts of discrimination.³⁹ As they point out, the Telecommunications Act of 1996 devotes a great deal of attention to the control of discrimination. They fail to mention the reason for this attention—the remarkable record of AT&T before divestiture in interfering with its potential rivals in every possible way and the poor record of local carriers since divestiture in interfering with rivals in local toll, voicemail, and payphones.

109. In the previous section, I considered a number of examples of the low level of cooperation that exists between vertically integrated telephone companies and their rivals in the downstream market. All of these instances of non-cooperation occurred despite regulation. As a general matter, I believe it is a fair summary of the evidence from experience in the telephone industry that regulators have not been successful in enforcing high levels of cooperation in situations where the shareholder interests of the local carriers have been to avoid cooperating with downstream rivals. Section F of this part observes that competition in the upstream access market has not increased enough to reduce appreciably the need for cooperation between the local carriers and long-distance carriers.

110. The state regulatory commissions and the FCC are responsible for enforcing cooperation between independent firms in the telephone network. As these regulators have permitted entry into new layers of the network—local transport,

³⁸ *Affidavit of Dale N. Hatfield on Behalf of MCI.*

³⁹ *Kahn-Tardiff Affidavit*, p. 20 and *Gordon Affidavit*, p 14.

local access, payphones, voicemail, and wireless—this role of enforcing cooperation contrary to the interests of the local carriers' shareholders has become more complicated and more important. The regulators have not been completely unsuccessful in enforcing cooperation. For example, regulators in some areas have overcome the fierce opposition of the local carriers and obtained dialing parity for those carriers' rivals. But the regulators face an uphill battle—it took huge efforts to get dialing parity and it is still not available in many important markets. All of the failures of cooperation described in section D occurred despite the existence of regulation that intends, broadly, to compel cooperation.

111. These failures of cooperation in spite of regulation translate into significant foregone consumer welfare. One of the biggest failures has been the delays created by the local carriers in providing presubscription to alternative local toll carriers and the difficulties faced by regulators in enforcing that form of cooperation. Because this has severely limited competition in the local toll market, the local carriers have been able to slow down the arrival of competition and lower prices in these markets.

F. Access Markets

112. An essential part of the telephone system is access, the service of connecting a customer's telephone to another network. Access is the upstream market upon which long-distance carriers are dependent. Both loosening regulation and technical change are offering some customers the opportunity to gain access to long-distance carriers through competitive access providers, through new local carriers who lease loops or other network elements from the dominant local carrier, or through resellers of local services. If the determined resistance of local carriers can be overcome, there is great hope for beneficial growth in the access market. But earlier claims that significant fractions of telephone customers could bypass the existing local network have proven groundless—wireless access suffers cost and quality disadvantages, and hopes that cable television vendors would add telephone capabilities to their systems have proven unrealistic. As a result, the incumbent local carriers are the sole owners of facilities for access at reasonable cost to the overwhelming majority of telephone customers.

113. In Texas, Southwestern Bell was successful in passing a law that makes competition from facilities-based carriers in local service very difficult. Among other things, the law requires that any facilities-based carrier is subject to a build-

out requirement that access be provided within 30 days to any telephone within a 27 square mile area within 6 years. After 6 years, all of the area served must be served with facilities other than the facilities of the local exchange carrier. At no time can more than 40 percent of the applicant's service area be served by resale of the local exchange carrier, and it can only resell services within the area covered by a build out plan.⁴⁰ MCI and other potential competitors in local service have been unsuccessful in limiting this bill's impact on the provisioning of local service.⁴¹

114. Thanks to provisions of the Telecommunications Act of 1996 mandating a wholesale market in local services, hopes for meaningful competition in access have shifted to resellers of existing local facilities or services, particularly those providers that combine their own facilities with those of the incumbent. Until the terms available in the wholesale market for local facilities are determined, it is impossible to predict the pattern of competition that will develop based on reselling.

115. The criterion for changing policies is not whether rivals are making inroads in local markets. The issue is whether almost all customers have cost-effective alternatives for access. Some large businesses with high volumes of long-distance traffic now enjoy the benefits of competition in the access market. But FCC policy needs to consider the interests of all long-distance customers. The overwhelming majority of individuals and smaller business establishments in Oklahoma today do not have alternatives to access provided by Southwestern Bell.

116. In discussions of alternative access, it is essential to distinguish the present from the future. Once the Telecommunications Act's intention of opening up local telephone markets to serious competition has been achieved, many constraints on long-distance policy will be relieved, as I discuss later in this affidavit. A reasonable criterion for determining the adequacy of competition in local markets is that these markets resemble the long-distance market today, where

⁴⁰ Public Utility Regulatory Act of 1995, Section 3.2531.

⁴¹ The Texas Public Utility Commission may conduct a hearing on an application filed after September 1, 1997 to determine if these regulations have created barriers to entry. If the commission decides that the build-out regulations have created barriers to entry, then the commission may modify the build-out requirements. However, the minimal area served can be no smaller than 12 square miles, and the resale percentage may only be increased to 50 percent. In no case are the changes retroactive. *Ibid.*

virtually every telephone customer can choose among numerous alternative carriers and where the market has low barriers to entry, active rivalry of numerous sellers, and prices not far above costs. It is just as important to look beyond market shares in judging competition in local markets as in the long-distance market. A local market may or may not be adequately competitive if the historical local carrier has, like AT&T, a 55 percent market share, depending on these other conditions.

117. Regulation and the high cost of alternative access technologies constitute substantial barriers to entry to the access market. There is strong indirect evidence that these barriers are formidable. All observers agree that access is priced well above cost. Nonetheless, the incumbent local carriers have retained their near-monopolies. The continuation of high profit margins can be explained only by barriers to entry.

118. I conclude that for the present and near future, policy decisions about long distance in general and Southwestern Bell's application to enter long distance in particular should be made on the assumption of the continuation of a single access provider for most telephone customers and with access charges regulated at levels far above costs.

G. The Regulated Price of Access

119. Another significant aspect of regulation, important for the issues surrounding Southwestern Bell's application to enter long distance, is the regulated price of access. Most observers agree that access is priced well above cost. A possible effect is to generate revenue to subsidize local service. Currently, the overpricing of access results in an important type of inefficiency, the redundant provision of access to some business customers. It is inefficient for both the incumbent local carrier and a CAP to provide access circuits to these customers in order to avoid the overpricing of access. To the extent that any customers are switching from wired access to wireless access, such as satellite or cellular access at stationary locations, an even greater inefficiency arises because wireless is substantially more expensive.

120. The overpricing of access would become a more acute policy issue if Southwestern Bell and other local carriers were allowed to control long distance carriers. Because the vertically integrated carrier incurs the actual cost of access,

whereas its long-distance rivals pay the substantially higher access charge, overpricing of access creates a cost advantage for the local carrier. Although the local carrier also incurs a shadow cost if it takes long-distance business away from one of its access customers, this effect does not fully offset the cost advantage. Under efficient competition, with access priced not too far above cost, the existing long-distance carriers would sell more services at lower prices. Overpriced access means that the local carriers will capture a larger share of the long-distance market than they would capture under efficient competition. The price of long-distance service is higher, and the quantity sold is lower, than in the efficient case with properly priced access.

H. Formal Analysis of Vertical Integration and Cooperation

121. A number of economists have studied the question of whether a monopoly seller of access has an incentive to cooperate with its rivals in the downstream long-distance market. A simple framework is the following: Would an access supplier voluntarily pass on cost-reducing information that would benefit its rivals in the long-distance market? That is, would providing the information raise the profit of the vertically integrated access supplier? A fair reading of this literature is that the answer is unambiguously no. *No author has found circumstances where rational conduct by the access supplier would cause it to help its downstream rivals.* Formal economic analysis speaks with one voice that, once the access supplier competes in the downstream long-distance market, it will try to interfere with its rivals in that market. It would lower, not raise, its profit, if it cooperated voluntarily. This conclusion follows whether or not the access price is regulated, whether or not the regulated access price is at or above cost, and whether or not the access supplier sells long distance through a separate subsidiary that maximizes its own profit.

122. The intuition behind the result that cooperation cannot be expected from a rival is straightforward. In every model of the interaction of firms in a market, a firm benefits by raising its rivals' costs. The result of the increased costs of rivals will be a combination of a higher market price and greater volume sold by the one seller whose costs do not rise. Both of these effects unambiguously add to that seller's profit. Placing the problem in the context of the presence of a vertically integrated access supplier in the long-distance market does not change the analysis. For example, suppose that the independent long-distance carriers behave competitively, supplying indefinitely large volumes of service if the price is at or

above their cost, and nothing otherwise. Suppose further that the regulated price of access is above the cost of access but below the unregulated monopoly price. Finally, suppose that the access supplier can raise the costs of the independent long-distance carriers by withdrawing cooperation. If the supplier chooses to cooperate, its profit is limited to its regulated access margin, because competition guarantees that the price is equal to the cost of long-distance service including the regulated access charge. Thus the access supplier makes a profit on all access (including that supplied to its own subsidiary) to the extent that the regulated price of access is above cost and no long-distance supplier makes any profit. Now let the access supplier raise its rivals' costs. The access supplier can capture the entire long-distance market by pricing slightly below its rivals' cost level. It becomes a monopolist in the long-distance market. As it raises its rivals' costs further, it achieves the monopoly level of profit for the long-distance market. As long as the regulated level of the access charge does not already deliver the monopoly profit (which it surely does not, in reality), then the access supplier has an unambiguous incentive to raise the level of the price ceiling provided by the competitive long-distance industry.

123. Although my example is based on competition among the independent long-distance carriers, the same result applies if long-distance is modeled as an oligopoly, even one with much more market power and profit than suggested by the data reviewed earlier in this affidavit. A recent paper by David Sibley and Dennis Weisman considers a standard oligopoly model, the Cournot model.⁴² They demonstrate that the monopoly seller of access has an unambiguous incentive to withdraw cooperation from the downstream long-distance carriers and thus to raise their costs.⁴³

124. Sibley and Weisman also consider the possibility that the long-distance affiliate of the monopoly seller of access is sufficiently isolated from its parent so that the affiliate maximizes its own long-distance profits and does not consider the effects that its activities have on the upstream access business of its parent. The

⁴² David S. Sibley and Dennis L. Weisman, "Raising Rivals' Costs: The Entry of an Upstream Monopolist into Downstream Markets," Kansas State University, March 1997. An earlier paper by the same authors, "Competitive Incentives of Vertically Integrated Local Exchange Carriers," November 1995, may have created the impression that a monopolist in the access market may choose not to raise its rivals' costs under some circumstances, but I believe that the March 1997 paper states the authors' current beliefs about how to analyze this issue.

⁴³ Sibley and Weisman, "Raising Rivals' Costs," p. 11, Theorem R4.

affiliate pays the same regulated access charge paid by the independent long-distance carriers. In this case as well, under reasonable conditions, the monopoly seller of access has an incentive to withdraw cooperation and raise the costs of the independent long-distance sellers.⁴⁴

125. In their analysis of the isolated subsidiary, Sibley and Weisman suggest that it is possible, under certain conditions that I find quite unreasonable, that the access supplier would not choose to withdraw cooperation when its long-distance affiliate has a small share of the long-distance market. In their numerical example, a share lower than about 13 percent means that the access supplier that withdraws cooperation loses more access profit from its independent long-distance customers than it gains in profit from its long-distance subsidiary. There are three reasons why this result should not be taken seriously: (1) It is completely unrealistic and contrary to basic principles of economics to expect the managers of the long-distance affiliate to ignore the benefits that expansion of their output conveys upon the parent. The affiliate should expand to the point where the combined profit of parent and affiliate is maximal. As noted above, when the affiliate behaves in this rational way, the parent has an unambiguous incentive to withdraw cooperation. (2) The result applies only for very low market shares for the affiliate in long distance. Most projections for the market shares of major local carriers in long distance are well above 13 percent. (3) Sibley and Weisman only consider tiny increases in costs induced by the withdrawal of cooperation.⁴⁵ The access supplier *always* has an incentive to impose larger cost increases on its long-distance rivals.

126. Sibley and Weisman suggest that there is a possibility that the access supplier will not have an incentive to withdraw cooperation during the transition period before its long-distance affiliate achieves its equilibrium market share. They consider what they call the conditional equilibrium of their model, where they arbitrarily set the sales of the affiliate below the level predicted by the model.⁴⁶ Their approach here has no grounding in the received theory of oligopoly. The

⁴⁴ *Ibid.*, pp. 15 and 16.

⁴⁵ In technical terms, Sibley and Weisman take the derivative with respect to the cost increase at the point where the cost increase is zero. In fact, the combined profit becomes an increasing function of the cost increase for relatively small cost increases—the region where the derivative is negative is very small.

⁴⁶ *Ibid.*, pp. 9-13.

model is meaningless without adding elements that explain why the long-distance affiliate is less successful than the model predicts. It is reasonable to suppose that costs of rapid expansion limit the affiliate's market share in the early years. Nicholas Economides has shown that the access seller has an incentive to withdraw cooperation even when its long-distance affiliate has a cost disadvantage.⁴⁷ Thus, Sibley and Weisman are reasonable in suggesting that it will take time for the access seller to reach its long-run equilibrium share, but they are incorrect in suggesting that the access seller will continue to cooperate with its long-distance rivals during the transition period. In a full analysis, the long-distance subsidiary would face an adjustment cost that explained why its market share did not rise immediately to its longer-run equilibrium. That is, in the period immediately after entry, the subsidiary would have the cost disadvantage considered in Economides's analysis. As he shows, the access seller would have an unambiguous incentive to withdraw cooperation from the moment its subsidiary entered the long-distance business.

I. Analyses of the Consequences of Vertical Integration

127. A number of authors have developed formal models to evaluate the effects on social welfare of vertical integration by an access supplier into long distance. Welfare gains can come from two sources. One is the increase in competition that could occur from the addition of another long-distance seller. The other is the effect of adding a long-distance seller that does not pay high access charges but instead pays the actual cost of access.

128. Professors Sibley and Weisman consider the first source.⁴⁸ Prior to entry by the access supplier, there is market power in long distance and price is above cost. Specifically, there is a single monopoly long-distance carrier. When the local carrier enters, the long-distance market becomes perfectly competitive, price falls to marginal cost (including the access fee), and quantity increases, improving consumer welfare. Because entry of the access supplier triggers a move to perfect competition, where no seller earns any profit, the entire motivation for entry by the access seller is the increased volume of access that results from the reduction in the long-distance price.

⁴⁷ "The Incentive for Non-Price Discrimination by an Input Monopolist," Stern School of Business, New York University, January 1997, revised April 1997.

⁴⁸ Sibley and Weisman, "Competitive Incentives" *op.cit.*, Sections II and III.

129. Sibley and Weisman's result turns on a critical assumption. Prior to entry, long distance is a monopoly; after entry, long distance is perfectly competitive. As I have shown earlier, long distance has become substantially competitive today without access suppliers having control of any long-distance sellers. Apart from cost issues, there is no reason to expect that the presence of access suppliers in the long-distance market would result in lower prices. As I note elsewhere in this affidavit, in those instances such as local toll and Connecticut long distance, access suppliers are invariably high-price sellers of long-distance services.

130. One important issue, considered in the previous section and earlier in this affidavit, is the ability of the access supplier to impose cost increases on its long-distance rivals by withdrawing cooperation. Given that long-distance entry by access suppliers is unlikely to affect the price of long distance at all except for cost effects, and the incentive for the access supplier to withdraw cooperation and raise costs, the balance tilts decisively in favor of the existing principle of structural separation of access supply and long distance.

131. The second cost issue, the potential cost advantage of the access supplier because of the avoidance of high regulated access charges, has been considered by Professor Franklin Fisher⁴⁹ and by Professor Richard Schmalensee and co-authors.⁵⁰ Fisher observes that an access provider subject to a regulated access charge well above cost will behave as if it had a cost advantage in long distance. The implicit cost advantage is not as large as the full difference between the access charge and the cost of access, because the access supplier faces an opportunity cost of lost access revenue when it displaces independent long-distance sellers. Nonetheless, the implicit cost advantage is present. The equilibrium in the long-distance market is inefficient as a result of the access supplier's pursuit of its artificial cost advantage. A socially preferable outcome would result from setting the access charge equal to cost and eliminating the artificial cost advantage.

132. Schmalensee *et al.* consider entry by an access supplier into a long-distance market with extreme market power. Specifically, prior to entry, the price of long distance is 14.9 cents per minute with cost including the access charge of 5.4 cents per minute. The implied level of profitability of long distance is vastly higher than

⁴⁹ "An Analysis of Switched Access Pricing and the Telecommunications Act of 1996."

⁵⁰ Richard Schmalensee, William Taylor, J. Douglas Zona, and Paul Hinton, "An Analysis of the Welfare Effects of Long Distance Market Entry by an Integrated Access and Long Distance Provider."

anything found in the actual long-distance industry of the United States. Entry by the access supplier lowers the price of long distance to 12.7 cents per minute. The authors decompose the reduction into an element associated with the addition of one more rival to the market (1.1 cents per minute) and an element associated with the cost advantage of the access supplier (another 1.1 cents per minute).

133. Both of these elements are gross overstatements. As I have shown earlier in this affidavit, the long-distance industry is much more competitive than the model of Schmalensee *et al* reflects. Although the Cournot model they use is widely accepted and frequently used, it is not well suited to the long-distance industry. Profit in the industry is far less than the model predicts. In addition, their use of the Cournot model forecloses investigation of the issue raised by Professor Fisher. In the Cournot model, each seller assumes that its rivals do not change their quantity sold in response to the quantity sold by that seller. Consequently, when the integrated access-long-distance seller is making decisions, it ignores the opportunity cost of access lost when long-distance sales are taken away, because it assumes no sales are taken away. The Cournot model is peculiarly ill-equipped to deal with the issue of the opportunity cost.

134. As a result, Schmalensee *et al*. seriously overstate the price reductions that would follow when an access provider takes control of a long-distance seller. Again, evidence from markets where access suppliers currently offer toll service suggests that they are the high-price, not the low-price, sellers. In addition, the authors ignore the effects of the withdrawal of cooperation that will follow from the integration of the access provider into the long-distance market. Their footnote 2 contains the following statement on this issue: "...Sibley and Weisman analyze the nature of incentives faced by LECs to discriminate against downstream competitors. Using a simple model of the long-distance market, they find that combined profit-maximizing behavior of the LEC in certain circumstances gives them the incentive to lower rather than raise their rivals costs." As I noted in the previous section, Sibley and Weisman find just the opposite—there is an unambiguous incentive for the integrated entity to withdraw cooperation and raise its rivals' costs.

135. A local carrier has no special incentive to take long-distance business away from an independent carrier who is an access customer of the local carrier, because the foregone access charge becomes an opportunity cost. But the local carrier does have a special incentive to take business away from a long-distance carrier who might readily use other forms of access, whenever the local carrier's actual access

cost is less than the price of access set by the alternative access provider. As local competition develops, this factor may lead to more rapid expansion of the incumbent local carriers' long-distance affiliates than one would expect for an entrant lacking this artificial incentive. The corresponding effect on independent long-distance carriers would be larger—more of them would be driven out of the market or would fail to enter. When incumbent local carriers such as Southwestern Bell begin to control long-distance carriers, there would be more concentration in the long-distance market than without this control.

136. An important implication of this analysis is that the substantial share of the long-distance market achieved by local carriers, such as SNET, who have recently begun to control long-distance carriers, is no indication of efficiencies or other fundamental sources of consumer benefits. The likelihood that Southwestern Bell will achieve 20 or 25 percent of the Oklahoma long-distance market should it be allowed to control a carrier in that market is no indicator of social benefits, especially when judged against the superior policy of lowering regulated access charges and retaining the policy of structural separation.

J. Cost Shifting from Unregulated to Regulated Businesses

137. The regulation of a partially regulated, partially unregulated firm is a challenge. The firm has an incentive to report costs of its unregulated activities as if they were costs of regulated ones, if regulation has any tendency to reimburse those costs. Two inefficiencies flow from cost shifting of this type: First, the overpricing of regulated local service results in a loss of consumer welfare. Second, if the local carrier faces less than the full social cost of the inputs they use in long distance, they will use excess inputs. Cost shifting always results in a net loss of social welfare, even if it depresses the price of long distance. In recognition of this problem, the Telecommunications Act requires the local carrier to sell long-distance services through a separate subsidiary.

138. When a local carrier uses resources from its local services to provide long-distance services, it has shifted the costs to the disadvantage of the telephone user. Because regulation in almost all areas amounts to at least partial reimbursement of costs, the effect of cost shifting is to subsidize resources for long distance. This remains true even if decision-making is completely integrated between the local and long-distance parts of the local carrier and strictly serves the shareholders' interests. This ability to shift long-distance costs to its local services means a local

carrier could remain as a seller in a long-distance market even if it has higher true costs than its rivals. It is economically inefficient for the local carrier to provide output at high cost when the same output could be provided at a lower cost by another long-distance provider.

139. Professor Kahn and Dr. Tardiff and Dr. Gordon believe that cost shifting is irrelevant to the modern telephone industry because of regulatory tools and expertise.⁵¹ I believe, on the contrary, that cost shifting continues to be a potential source of economic inefficiency. On balance, consumers will be worse off, and telecommunications markets will be less efficient, if the local carrier shifts substantial costs from long-distance services to regulated activities.

140. Professor Kahn and Dr. Tardiff and Dr. Gordon conclude that regulators have the tools and expertise to eliminate the threat of cost shifting. I think this conclusion fails to deal with the reality of regulation. Under any current regulation of local service rates, regulators must still regulate in reference to some cost standard. This is particularly a problem in Oklahoma where Southwestern Bell is still regulated in the local toll market under rate-of-return regulation.⁵² The incentive for cost shifting remains unless regulators can regulate prices from sources entirely unrelated to the actual costs or profits of the telephone companies they regulate. Under rate-of-return regulation, the local carrier has an unambiguous incentive to shift costs because regulators will respond to changes in profits in regulated service by raising or lowering prices.

K. Effectiveness of Enforcement and Regulation

141. In my opinion, it would be unrealistic to expect enforcement and regulation to deal effectively with the major new problems that control of long-distance carriers by local telephone companies would bring. Regulation and enforcement have failed to deal effectively with the most elementary instances of non-cooperation in areas such as local toll service and payphones. I believe that it would be unwise to rely on the same institutions to deal with the more significant social losses that would occur upon vertical integration into the long-distance market. It is important to stress that existing high levels of cooperation between

⁵¹Kahn-Tardiff Affidavit, p. 26; Gordon Affidavit, p. 14.

⁵² Gordon Affidavit, p. 15.

local and long-distance carriers are no guide to the level of cooperation that would occur after local carriers take control of long-distance sellers.

L. Efficiencies from Vertical Integration

142. An important issue in determining whether to depart from the existing policy of structural separation of long distance from other telephone network functions is the extent of efficiencies from vertical integration. The issue is *not* whether there are any efficiencies. Rather, it is whether the efficiencies are quantitatively sufficient to overcome the sum of the social costs of the decline in cooperation that will accompany vertical integration and the costs of enforcing whatever level of cooperation can be achieved by regulation and litigation.

143. Where there are identifiable efficiencies of relationships between local telephone companies and long-distance carriers, such as in billing, specific contractual arrangements can often take full advantage of those efficiencies.

144. Ordinarily, the decision to vertically integrate can be left to a private firm in competitive markets. However, it is a fundamental conclusion of my analysis that the decision about vertical integration into long distance cannot be left to the local carrier, so long as the local carrier is a regulated firm with potential market power. Although efficiencies of vertical integration might be one force that led a local carrier to integrate into long distance, there is a powerful incentive, harmful to consumers, that exists even without any efficiencies. The result of leaving decisions about vertical integration to local carriers is anything but the efficient determination of vertical integration that would occur if local markets were reasonably competitive.

145. Professor Schmalensee and Professor Kahn and Dr. Tardiff consider the efficiencies of vertical integration.⁵³ Their analysis does not consider whether the same efficiencies could be achieved by contractual relations among non-competing entities. The most convincing example of an efficiency they mention is billing for long-distance service and local service on the same bill. A large fraction of telephone customers enjoy this efficiency today, as a result of the cooperative relationship between local and long-distance carriers created by structural

⁵³ *Schmalensee Affidavit*, p. 9; *Kahn-Tardiff Affidavit*, p. 37.

separation. Significantly, an important cost of Southern New England Telephone's control of a long-distance carrier was its refusal to continue billing for AT&T.

146. Kahn and Tardiff suggest that it is inefficient if the local telephone company cannot offer one-stop shopping.⁵⁴ I disagree. First, many of the advantages of one-stop shopping can be achieved through contractual arrangements. For example, customers find one bill attractive. As I discussed above, combined billing can be achieved through contractual arrangements, as is widely true today. Second, other types of one-stop shopping would create a regulatory nightmare—the bundling of regulated and unregulated services would create huge problems in assigning costs. The local telephone companies would be offered major new opportunities for cost shifting.

147. With no further explanation, Kahn and Tardiff assert that “Stifling the incentives of RBOCS to offer new services costs society billions of dollars annually in lost consumer benefits.”⁵⁵ There is no explanation as to why the only way that these benefits—some of which would surely go to the companies as well as their customers—cannot be achieved except by having the local telephone company control, rather than contract with, a long-distance carrier. Similarly, they assert, equally without elaboration, that “The sacrifices of scope economies entail artificially inflated production costs.” Again, there is no bar to the exploitation of cost reductions through the contractual relations between a local telephone company and its long-distance customers.

148. I find no reason to believe that there are important efficiencies from vertical integration of access service and long-distance service. The conclusion that there were no important efficiencies was an important part of the logic of the splitting of the old Bell system into the local carriers and AT&T. I do not believe the situation has changed. I believe that efficient relations between access and long distance can be achieved through cooperation of independent firms, within the environment supporting cooperation created by the structural separation principle of the Telecommunications Act.

⁵⁴ *Kahn-Tardiff Affidavit*, p. 39.

⁵⁵ *Ibid.*

M. Lessons from Experience in Connecticut

149. The local telephone company serving Connecticut, Southern New England Telephone (SNET), began selling long-distance services in 1994. At the same time, the local toll market was opened to competition. Experience since then is helpful in understanding what happens when an upstream monopolist begins to compete in a downstream market. As yet, failure to determine wholesale rates for the local network has blocked meaningful local competition—SNET has retained a near-monopoly in providing access.

150. SNET has a huge competitive advantage in the Connecticut market for interstate long-distance calls because federal regulation prohibits responses by its rivals that apply only to Connecticut. WorldCom and the other national long-distance carriers would have to lower their prices nationally in order to respond to SNET's pricing. SNET has done little to take advantage of this perverse feature of regulation. SNET's interstate rates are 23 cents per minute during the day and 13 cents at night, with small discounts for high volumes. By contrast, the MCI One rate is 12 cents per minute at all times, for calls in excess of \$25 per month, and 15 cents per minute for calls less than \$25 per month. The AT&T One Rate and Sprint Sense Day Plan, completely unrestricted plans with no fixed charges and no minimum purchases, cost 15 cents per minute. The Connecticut long-distance customer has gained no meaningful advantage from SNET's control of a long-distance carrier in the market.

151. SNET is also the high-price seller in the local toll market. In this respect it is no different from the other local telephone companies, such as Southwestern Bell, who have placed themselves toward the top of the distribution of prices in local toll markets, as these markets have been opened to competition. SNET's local toll charge is 18 cents per minute during the day and 10 cents at night and on the weekend. It is an astonishing fact that I, a part-time resident of Connecticut, pay half again as much per minute to call from New Haven to Killingworth using SNET as I pay to call to California. By contrast, AT&T's local toll rate in Connecticut is 5 cents per minute for One Rate and One Rate Plus, MCI's is 12 cents per minute, and Sprint's is 10 cents per minute off-peak and 15 cents during peak hours.

152. SNET's responses to becoming a rival of the long-distance carriers are in line with the analysis presented earlier in this affidavit. Previously, SNET was a supplier to the long-distance carriers—it enjoyed its position as the monopoly

seller of access services at high prices. SNET cooperated voluntarily with the long-distance carriers. For example, SNET had a contract with AT&T to bill AT&T's customers on their local phone bills. SNET terminated this cooperation when AT&T became a rival. In addition, SNET has prevented the long-distance carriers (with the exception of SNET's long-distance supplier, Sprint) from offering presubscription for local toll. MCI's customers must remember to dial 10222 in order to take advantage of MCI's low prices for local toll calls.

153. Professor Kahn and Dr. Tardiff state that SNET has offered inter-LATA services "without apparent anti-competitive effect."⁵⁶ But there is much more to the issue of cooperation than the absence of discrimination. SNET's refusal to bill for AT&T is a good example. Kahn and Tardiff fail to add to their comment, "and without competitive benefit" as would be appropriate in view of SNET's high prices.

154. Professor Kahn and Dr. Tardiff refer to the study of Dr. Crandall and Professor Waverman in their discussion of the SNET experience.⁵⁷ However, Dr. Crandall and Professor Waverman in their study appear to misunderstand one important aspect of the experience in Connecticut. They attribute price declines in the local toll market to SNET's control of a long-distance carrier.⁵⁸ Rather, the declines occurred because, at the same time that SNET became a seller of long distance, it lost its monopoly in local toll. As in other states where new carriers have been permitted to enter local toll, the ending of monopoly delivered benefits to telephone consumers.

155. The main change that has occurred in Connecticut from the perspective of the typical telephone customer is that some of them have lost the convenience of receiving a single phone bill for local and AT&T long-distance service. There have been no meaningful benefits in the form of reduced prices. Nothing in the experience in Connecticut supports the extension of the policy of permitting a local telephone company to enter the long-distance market while the company still dominates the access market. If substantial local competition develops in Connecticut, most of the harm associated with SNET's withdrawal of cooperation will be ameliorated.

⁵⁶ *Kahn-Tardiff Affidavit*, p. 30.

⁵⁷ *Ibid.*

⁵⁸ *Crandall-Waverman Affidavit*, p. 22.

N. Effects on Local Competition of a Local Carrier's Control of a Long-Distance Carrier

156. Vertical integration of the dominant local carrier into long distance would have an important chilling effect on local telephone competition. We may safely assume that the local carrier's long-distance operations will rely wherever possible upon the local carrier for access. Hence the shift of an important share of long-distance traffic from independent carriers to the local carrier will reduce the potential business available to a new competitor in local service. Because local service has important increasing returns to scale, the reduced size of the local market will lower the incentive perceived by the potential entrant to the local market and cut the number of local competitors.

157. In addition, integrated long-distance operations would give the dominant local carrier a potent strategic tool for depriving potential local entrants of much of their anticipated profits from the provision of access. Where the dominant local carrier is not a long-distance carrier, rival local carriers can capture access business whenever their cost is below the high level of regulated switched access charges. The dominant local carrier cannot lower the switched access charge opportunistically to retain the access business. But when the dominant local carrier bundles access and long distance, as it would under any program of vertical integration, the carrier would have the freedom, in effect, to lower its implicit access charge so as to deter entry and retain its access customers.

158. I conclude that vertical integration of the local carrier into long distance will inhibit the development of local competition by depriving potential entrants to local markets of much of the profit otherwise available from the access business. This adverse effect of vertical integration could be avoided by bringing the price of regulated access down to the level of cost. As long as access charges remain so high, however, there is an additional social cost of permitting local carriers to sell long distance.

V. *Evaluation of Southwestern Bell's Proposed Control of a Long-Distance Carrier*

A. *Introduction and Summary*

159. My analysis of the impact of Southwestern Bell's control of a long-distance carrier relies on the analysis and factual conclusions presented earlier in this affidavit. There are two major issues: (1) the benefits to the consumer from Southwestern Bell's possible role in increasing competition in the Oklahoma long-distance market, and (2) the harm that would result from the breakdown in cooperation in the telephone system as a result of Southwestern Bell's dominant position in providing access services. Part III provided the basis for my conclusion that the long-distance consumer has little to gain from the addition of Southwestern Bell to the long list of sellers already present in the Oklahoma long-distance market. Section F of Part IV discusses Southwestern Bell's dominance of the Oklahoma access market. Material in Part IV provided the analytical framework and factual background for my conclusion that Southwestern Bell's presence in the Oklahoma long-distance market is a threat to consumer welfare in that market.

B. *Southwestern Bell's Possible Role in Increasing Competition in the Oklahoma Long-Distance Market*

1. *The Current State of Competition in Long Distance*

160. A major issue in evaluating Southwestern Bell's proposal is the current performance of the long-distance industry. Poor performance of the competitive long-distance industry would call for an alternative policy, such as tighter regulation of a monopoly carrier. My conclusion, stated earlier in Part III, is that the performance of the industry has been outstanding since competition became effective. Although the long-distance industry does not entirely fit the model of textbook perfect competition, long-distance customers have enjoyed sharply declining prices and improved service, and the market satisfies the standard of highly workable competition.